

Application No.: 10/811,733
Second Preliminary Amendment
Attorney Docket: KLEIN-084BC

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Amendments to the Claims:

29. (New) An infiltration apparatus, comprising:

a cannula;

a flexible tubing, connecting to one end of the cannula;

a peristaltic pump comprising:

a pathway for the flexible tubing to extend through,

a plurality of non-conductive rollers installed along the pathway to flow fluid through the flexible tubing, and

a control air inlet wherein operation of the peristaltic pump is controlled through a pulse of air delivered to the control air inlet;

a container, in fluid communication with the cannula via the flexible tubing extending through the peristaltic pump; and

a foot pedal, connected to the control air inlet of the peristaltic pump via a flexible tube, the foot pedal being operative to produce the pulse of air and deliver the pulse of air to the control air inlet of the peristaltic pump.

30. (New) The infiltration apparatus according to Claim 29, wherein the foot pedal under a momentary mode is operative to switch on the peristaltic pump while being depressed and switch off the peristaltic pump while being released.

31. (New) The infiltration apparatus according to Claim 29, wherein the foot pedal under a continuous mode is operative to switch on and off the peristaltic pump by alternate depression.

DRAFT

Application No.: 10/811,733
Second Preliminary Amendment
Attorney Docket: KLEIN-084BC

32. (New) The infiltration apparatus according to Claim 29, wherein the foot pedal under a rate control mode is operative to adjust the flow rate of the fluid by controlling duration of depression applied to the foot pedal.

33. (New) An infiltration apparatus, comprising:

a cannula;

a flexible tubing, connecting to one end of the cannula;

a peristaltic pump comprising:

a pathway for the flexible tubing to extend therethrough; and

a plurality of non-conductive rollers installed along the pathway to flow fluid through the flexible tubing;

a container, in fluid communication with the cannula via the flexible tubing extending through the peristaltic pump; and

a foot pedal, connected to the peristaltic pump, the foot pedal being operative to adjust a flow rate of fluid through the flexible tubing proportionally to a duration of depression applied to the foot pedal.

34. (New) The infiltration apparatus according to Claim 29, wherein the peristaltic pump further comprises a rotation mechanism driving the non-conductive rollers to rotate clockwise or counterclockwise.

35. (New) The infiltration apparatus according to Claim 29 further comprising a sensor adjacent the non-conductive rollers of the peristaltic pump operative to detect a rotation speed of the non-conductive rollers of the peristaltic pump to determine a flow rate of the fluid.

DRAFT

Application No.: 10/811,733
Second Preliminary Amendment
Attorney Docket: KLEIN-084BC

36. (New) The infiltration apparatus according to Claim 35 further comprising a sound generating device in communication with the sensor and operative to generate a sound with a frequency increasing or decreasing in proportion to a rotation speed of the non-conductive rollers.

37. (New) The infiltration apparatus according to Claim 29 further comprising a sensor in contact with the flexible tubing and operative to detect a flow rate of a liquid flowing through the flexible tube.

38. (New) The infiltration apparatus according to Claim 37, wherein the sound generating device is operative to generate a sequence of sound with a frequency variable with the flow rate.

39. (New) The infiltration apparatus according to Claim 29, wherein the sound generating device is operative to generate a sequence of beeping sounds in response to an output of the sensor.

40. (New) An infiltration apparatus, comprising:

a cannula;

a flexible tubing, connecting to the cannula;

an infiltration pump comprising a pathway for the flexible tubing to extend therethrough and a plurality of rollers installed along the pathway to exert force on the flexible tubing;

a force sensor in contact with the flexible tubing for sensing a flow rate of fluid through the flexible tubing;

a sound generating device in electrical communication with the sensor;

DRAFT

Application No.: 10/811,733
Second Preliminary Amendment
Attorney Docket: KLEIN-084BC

a container, connecting to the flexible tubing extending through the peristaltic pump; and

a foot pedal, operative to activate/inactivate the infiltration pump in response to depression performed thereon.

41. (New) The infiltration apparatus according to Claim 40, wherein the sensor is operative to detect the force exerted by the rollers and output an electrical signal to activate the sound generating device in response to the force.

42. (New) The infiltration apparatus according to Claim 41, wherein the sound generating device is operative to generate a beeping sound with a frequency determined by the force.

43. (New) An infiltration pump, comprising:

a headstock, which comprises:

a pathway; and

a plurality of insulated rollers installed along the pathway;

a force sensor in contact with the rollers; and

a sound generating device in electrical or mechanical communication with the sensor.

44. (New) The infiltration pump according to Claim 43 wherein the headstock further comprises a rotation mechanism operative to drive the insulated rollers rotating clockwise or counterclockwise.

45. (New) The infiltration pump according to Claim 43 further comprising an electric motor operative to drive the rotation mechanism to rotate.

DRAFT

Application No.: 10/811,733
Second Preliminary Amendment
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46. (New) The infiltration pump according to Claim 43, wherein the sensor is operative to detect a rotation speed of the rollers and generate an electric signal in response to the rotation speed.

47. (New) The infiltration pump according to Claim 43, wherein the sensor includes a flow sensor operative to detect a flow rate of a fluid flowing through the pathway.

48. (New) The infiltration pump according to Claim 43, wherein the sound generating device is operative to receive the electric signal and generate a sound with a frequency in response to the electric signal.

49. (New) The infiltration pump according to Claim 48, wherein the sound generating device is operative to generate a sequence of beeps in accordance to the rotation speed or the flow rate.